10/774,791.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Patent of:

HAMPDEN-SMITH et al.

Patent No. 7,004,994 B2

Issued: February 28, 2006

Confirmation No. 9037

Atty. File No.: 41890-01685

For: "METHOD FOR MAKING A FILM FROM SILVER-CONTAINING PARTICLES" (As Amended)

REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT
(37 C.F.R. 1.322(a) and 1.323)

CERTIFICATE OF MAILING

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450 ON 3-15-06

MARSH FISCHMANN & BREYFOGLE LLP

BY: Dalena Berg

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Certificate
MAR 2 3 2006
of Correction

Dear Sir or Madam:

This is a request for a Certificate of Correction for PTO mistake under 37 C.F.R. 1.322(a). The errors in the patent are obvious typographical errors or omissions and the correct wording can be found in either the original specification at Page 75, line 15, and Page 95, line 17. Attached is form PTO 1050 in duplicate along with copies of documentation that unequivocally supports patentee's assertion(s).

This is also a request in relation to the above-identified U.S. Patent for issuance of a Certificate of Correction for Applicant's mistake. The errors in the patent are obvious typographical errors. Attached in duplicate is form PTO 1050 and a check in the amount of $100.00 to cover the

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MAR 24 2006

fee set forth in 37 C.F.R. Section 1.20(a). Please credit any over-payment or debit any underpayment to Deposit Account No. 50-1419.

Respectfully submitted,

MARSH FISCHMANN & BREYFOGLE LLP

By: _____

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Date: March 15, 2006

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,004,994 B2
DATED : February 28, 2006
INVENTOR(S): HAMPDEN-SMITH et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 11
Line 40, delete "aersol" and insert therefor --aerosol--.

Column 15
Line 2, delete "horizaontally" and insert therefor --horizontally--.

Column 33
Line 67, delete "disconected", and insert therefor --disconnected--.

Column 40
Line 37, delete "wetabillty" and insert therefor --wetability--.

Column 50
Line 65, delete "delcer" and insert therefor --deicer--.

Column 54
Lines 54-55, delete "compenents" and insert therefor --components--.

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FORM PTO-1050

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FORM PTO-1050

process involving a high firing temperature (such as higher than about 800°C).

Multi-phase particles may be desirable for a number of reasons, including: (1) a reduction in the amount of the expensive silver that is used in the particle to provide electrical conductivity by incorporating a second material phase that is a less expensive filler material; (2) to improve flowability of the particles in a paste and to improve resistance of particles to deformations; (3) to modify physical properties of the particles for improved compatibility with a substrate supporting a conductive film made using the particles, including modifications of the thermal coefficient of linear expansion, modification of sintering/densification characteristics, and modification of surface energy to alter wetability of the particles; and (4) to modify electrical or dielectric properties for customized electronic components. Some examples of uses of the multi-phase, silver-containing particles include use as catalysts or catalytic supports and as particles in paste formulations used in thick film applications, including manufacture of multi-layer capacitors, multi-chip components, super capacitors and other electronic components, batteries and fuel cells.

In the case of multi-phase particles, the particles include at least a first material phase and a second material phase. Additional material phases may be present, if desired. The first material phase includes silver, and is typically an electrically conductive metallic phase, with the silver being in the form of substantially pure silver or an alloy with one or more other metal. The second material phase, which is different than the first material phase, is typically substantially free of silver.

The second material phase may be a metallic phase. When the second material phase is a metallic phase, it may consist essentially of a single metal, or may include an alloy of two or

446, then those secondary conductor lines 446 are further connected together for removing current from the photovoltaic module 440 for use in an electric circuit. Grid electrodes of the type shown in Fig. 54 may be a front or back electrode, but are most often used for a front electrode. By a front electrode, it is meant that it is on the side of the photovoltaic module facing the sun during operation. A back electrode would be on the side facing away from the sun during operation. The active photovoltaic layer 442 may be of any photovoltaic cell design, but often includes a silicon layer. These types of grid electrodes are frequently used on silicon-based photovoltaic modules, and particularly on those of polycrystalline silicon. When silver used to make the grid electrode is in the form of an alloy, it is often an alloy with aluminum.

Another example of patterned current lines is shown in Fig. 55 for a window defogger/deicer. Fig. 55 shows a car 460 including a rear window 462 on which a circuit grid for a deicer/defogger 464 is located. The deicer/defogger includes a plurality of resistive heating lines 466 connected between with bus lines 468, which are connected to leads 470, through which the deicer/defogger 464 is interconnected into the electrical system of the automobile 460. The resistive heating lines 466 provide parallel paths for current flow and include a sufficient amount of electrical resistance to accomplish the heating required to maintain the rear window 462 free of ice and fog when in operation. The resistive heating lines 466 will typically include silver as a major component, but will include other components to provide required resistance for heating. For example, a small amount of a resistive metal ruthenate may be included to provide resistivity. Also, the metal ruthenate could be provided in multi-phase particles with the silver. The bus lines 468 are very low resistance lines for effective distribution of current among the resistive heating lines 466.